

Abstract of the Disclosure

The present invention relates to spectral analysis systems and methods for determining physical and chemical properties of a sample by measuring the optical characteristics of light emitted from the sample. In one embodiment, a probe head for use with a spectrometer includes a reflector for illuminating a sample volume disposed circumferentially about the light source of the probe head. In another embodiment, a probe head includes an optical blocking element for forcing the optical path between the light source and an optical pick-up optically connected to the spectrometer into the sample. The probe head also includes a reference shutter for selectively blocking light emitted from the sample from reaching the optical pick-up to facilitate calibration of the spectrometer.

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